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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/873,299	06/05/2001	Kenji Kawazoe	MEIC:108	5706

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EXAMINER

WARREN, MATTHEW E

ART UNIT

PAPER NUMBER

2815

DATE MAILED: 08/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/873,299

Applicant(s)

KAWAZOE ET AL.

Examiner

Matthew E. Warren

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to the Amendment filed on May 22, 2003.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Prior Art Figure (APAF) 12 in view of Kuriyama et al. (US 5,670,068).

With respect to claim 1, the APAF 12 shows a laser processing apparatus comprising a laser generator (16) for generating laser light, a laser controller (7) for controlling the laser generator, a positioning unit for positioning the laser light (15), and a position controller (9) for controlling a position of the positioning unit in a manner according to a moving distance of the positioning unit. The APAF 12 shows all of the elements of the claims except the position controller selecting a control method from a plurality of control methods, each corresponding to a predetermined moving distance of the positioning unit. Kuriyama et al. discloses (col. 6, lines 19-35) that a laser apparatus comprises a control method memory for storing a control method corresponding to the moving distance of the galvano (positioning unit), wherein the galvano (position) controller controls the position of the galvano (positioning) unit by the control method. The position controller (300) selects a control method from a plurality of methods

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because the controller "is connected to the X galvano scanner, Y galvano scanner,to control these devices or members based on pre-stored data" (col. 6, lines 35). With such a connection to and control over the multitude of devices, the controller obviously selects a control method from plurality of methods to move the devices and the positioning unit based on predetermined data. In column 6, lines 3-28, it is stated that certain methods are performed if certain conditions are met. Thus the controller has to select a method from a plurality of methods. Kuriyama's invention prevents errors caused by heat generated during the apparatus operation. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the position controller of the APAF by having the position controller select a control method from a plurality of control methods as taught by Kuriyama to move the positioning unit and prevent errors caused by heat generated during device operation.

With respect to claims 2-5, the APAF 12 shows all of the elements of the claims except the control method memory and the moving distance not less than a first, third, fourth or greater threshold.

Kuriyama et al. discloses (col. 6, lines 19-35) that a laser apparatus comprises a control method memory for storing a control method corresponding to the moving distance of the galvano (positioning unit), wherein the galvano (position) controller controls the position of the galvano (positioning) unit by the control method. This configuration reduces heat generated by the galvano scanner and ultimately corrects errors. Therefore it would have been obvious to one of ordinary skill in the art at the

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time the invention was made to modify the laser processing apparatus of the APAF 12 by implanting a control method memory and method as taught by Kuriyama et al. to reduce the errors caused by heating of the galvano/positioning scanner.

With respect to the other limitations of claims 3-5, neither reference discloses a moving distance not less than a first, third, or fourth threshold, however it would have been obvious to one of ordinary skill in the art at the time the invention was made to set a moving distance at a desired threshold, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

With respect to claim 6, the APAF discloses (pg. 3, lines 3-9) that the apparatus further comprises an acceleration/deceleration constant memory for storing an acceleration/deceleration constant corresponding to the moving distance, wherein the position controller controls the position of the positioning unit with using the acceleration/deceleration constant.

With respect to claim 7, the APAF discloses (pg. 3, lines 3-9) discloses that the apparatus further comprises an acceleration/deceleration constant calculating unit for calculating an acceleration/deceleration constant corresponding to the moving distance from the moving distance, wherein the position controller controls the position of the positioning unit with using the acceleration/deceleration constant.

With respect to claim 8, the APAF discloses (pg. 2, lines 18-22 and pg. 3, lines 3-9) that the apparatus further comprises an waiting-for-settling time memory for storing a waiting time for settling corresponding to the moving distance, wherein the position controller controls the position of the positioning unit with using the waiting time for settling.

With respect to claim 9, the APAF discloses (pg. 2, lines 18-22 and pg. 3, lines 3-9) discloses that the apparatus further comprises a waiting-for-settling time calculating unit for calculating a waiting time for settling corresponding to the moving distance from the moving distance, wherein the position controller controls the position of the positioning unit with using the waiting time for settling.

Response to Arguments

Applicant's arguments filed with respect to claim 1 have been fully considered but they are not persuasive. The applicant primarily asserts that the prior art references do not show all of the elements of the claims, specifically that Kuriyama does not cure the deficiencies of the APAF by disclosing a positioning unit that selects from a plurality of control methods. The examiner believes that the combined references show all of the elements of the claims and that Kuriyama properly discloses the amended limitations. Although the applicant cites the flow diagram of Figure 4 in Kuriyama is not showing a step of selecting a control method from a plurality of methods, the examiner believes that the paragraph in column 6, lines 19-35 adequately disclose the amended

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limitations. Specifically, the disclosure states that the controller is connected "with the X galvano scanner, Y galvano scanner, the pumping lamp, the driving device, the shutter, the monitoring camera, and the measuring device to control these devices or members based on pre-stored data." In this line it is understood that the controller must select a control method from a plurality of methods based on pre-stored data because the controller has to move the various units within the system. For instance, there would be a control method for the galvano scanner, the driving device, the camera, etc. Each unit would require its own method in conjunction with data from the other devices. Thus the controller has to have a plurality of methods in order to operate the apparatus components and move the positioning unit. Furthermore, in column 6, lines 3-18 of Kuriyama (which also refers to the flow diagram of Figure 4), it is stated that certain methods are performed if certain conditions are met. For instance, "if yes at step S9, the X and Y galvano scanners are moved to the next conductive body of the circuit." Basically, there are two methods in such a step; 1) to move the scanners to the next conductive body if yes, or 2) not move the scanners to the next conductive body. Therefore, Kuriyama shows that the controller selects a control method from a plurality of control methods. The combined references show all of the elements of the claims and this action is made final.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew E. Warren whose telephone number is (703) 305-0760. The examiner can normally be reached on Mon-Thurs, and alternating Fri, 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (703) 308-1690. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

MEW

MEW

August 22, 2003



ALLAN R. WILSON
PRIMARY EXAMINER